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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/982,711 | 10/18/2001 | Taizo Shirai | 09812.0590-00000 | 8666 |

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| EXAMINER | |
|---|---|
| KHOSHNOODI, NADIA | |
| ART UNIT | PAPER NUMBER |
| 2437 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 02/18/2009 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/982,711 | SHIRAI ET AL. | |
| | Examiner | Art Unit | |
| | NADIA KHOSHNOODI | 2437 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *05 January 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1,5,6,8,12,13,17,21,22,24,28,29,31 and 32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5,6,8,12,13,17,21,22,24,28,29,31 and 32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 January 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/5/2009 has been entered.

### *Response to Amendments*

Applicant's amendments/arguments filed 1/5/2009 with respect to pending claims 1, 5-6, 8, 12-13, 17, 21-22, 24, 28-29, 31, and 32 have been fully considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 101*

I. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

II. Claims 31-32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter, as they do not fall under any of the statutory classes of inventions. These claims in using the term “computer-readable medium,” in accordance with the first paragraph on page 16 of the Applicants’ Specification, allow for the computer readable medium/media to be a transmission medium, i.e. signals. A signal is not recognized as falling under one of the statutory classes of invention.

***Claim Rejections - 35 USC § 103***

III. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

IV. Claims 1-2, 5, 8, 17, 21, 24, 28, and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda et al., United States Patent No. 6,289,102 and further in view of Pebley et al., US Patent No. 6,154,840 and Sudia et al., United States Pub. No. 2005/0114666.

As per claims 1, 17, and 31:

Ueda et al. substantially teach the device/method/computer readable medium comprising: a memory unit containing data, including content data and a block permission table defining memory-access control information, the memory unit having a data storage area comprising a plurality of blocks, each of the blocks comprising M sectors from a first to a M-th sector with each sector having a predetermined data capacity, where M represents a natural number (col. 7, lines 25-39 and col. 13, line 47 col. 14, line 12); a processing unit for dividing content data into separate content data portions, for storing each of the separate content data portions in a different sector within a first data block of the data storage area (col. 14, lines 19-25); and for a security header corresponding to the content data in a second data clock of the data storage area (col. 15, lines 31-40); a cryptosystem unit for performing sector-level encryption to execute encryption processing on the content data portion to be stored in each of the sectors (col. 16, lines 3-51); and wherein the security header stored in the second data block includes each encryption key used (col. 15, lines 31-40).

Not explicitly disclosed is performing sector-level encryption by using a different encryption key for each sector of the first data block to execute encryption processing on the content data portion to be stored in each of the sector and storing each encryption key used for each sector of the first data block in the security header. However, Pebley et al. teach a different key may be created and used to encrypt/decrypt each portion of the content file which was broken up into blocks and that the key data may be stored in a separate file (col. 4, lines 32-67). Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Ueda et al. to used a different key to encrypt/decrypt each sector and to store each key in the header corresponding to a particular sector. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since Pebley et al. suggest that using a different key per sector strengthens the level of confidentiality for the document and storing the keys used in correspondence with the proper sector provides for proper encryption/decryption in col. 4, lines 32-67 and col. 5, lines 26-32.

Also not explicitly disclosed is checking the integrity of the block permission table. However, Sudia et al. teach that it is important to check the integrity of the information in the tables that ultimately allow users' access to resources in order to ensure that the permissions/revocation list is being enforced in such a way that a user exceeds their permissions/resources that they should be able to access. Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Ueda et al. to have an integrity unit in order to ensure the integrity of the revocation list and block permission table. This modification would have been obvious because a person having ordinary

skill in the art, at the time the invention was made, would have been motivated to do so since Sudia et al. suggest that the permission information may be included in the hashed value in order to ensure the validity of the data and that the data has not been improperly modified in par. 219, par. 237, and par. 244-245.

As per claims 5 and 21:

Ueda et al., Pebley et al., and Sudia et al. substantially teach an information recording device and method of claims 1 and 17. Furthermore, Sudia et al. teach the information recording device and method wherein, in said cryptosystem unit, the encryption processing is executed as single-DES encryption processing using different encryption keys for each sector of the first data block (par. 332).

As per claims 8, 24, and 32:

Ueda et al. substantially teach the information recording device/method for executing processing/computer readable medium comprising: a memory unit containing data, including encrypted content data and a block permission table defining memory-access control information, the memory unit having a data storage area comprising a plurality of blocks, each of which comprising M sectors form a first sector to a M-th sector which each have a predetermined data capacity, where M represents a natural number (col. 7, lines 23-39 and col. 13, line 47 – col. 14, line 12); a processing unit for reading encrypted content data portions which together comprise encrypted content data, wherein each encrypted content data portion has been encrypted and for reading a security header corresponding to the encrypted content data from a second data block of the storage area (col.14, lines 19-25 and col. 15, lines 31-40); a cryptosystem unit for performing sector level decryption to execute decryption processing on the

read encrypted content data portions (col. 16, lines 3-51); and wherein the security header read from the second data block includes the encryption key used to encrypt each encrypted content data portion read from the first data block (col. 15, lines 31-40).

Not explicitly disclosed is wherein each encrypted content data portion has been encrypted using a different encryption key and is read from a different sector within a first data block of the data storage area; performing sector level decryption by using different decryption keys; and storing each encryption key in the security header. However, Pebley et al. teach a different key may be created and used to encrypt/decrypt each portion of the content file which was broken up into blocks and that the key data may be stored in a separate file (col. 4, lines 32-67). Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Ueda et al. to used a different key to encrypt/decrypt each sector and to store each key in the header corresponding to a particular sector. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since Pebley et al. suggest that using a different key per sector strengthens the level of confidentiality for the document and storing the keys used in correspondence with the proper sector provides for proper encryption/decryption in col. 4, lines 32-67 and col. 5, lines 26-32.

Also not explicitly disclosed is checking the integrity of the block permission table. However, Sudia et al. teach that it is important to check the integrity of the information in the tables that ultimately allow users' access to resources in order to ensure that the permissions/revocation list is being enforced in such a way that a user exceeds their permissions/resources that they should be able to access. Therefore, it would have been obvious

to a person in the art at the time the invention was made to modify the method disclosed in Ueda et al. to have an integrity unit in order to ensure the integrity of the revocation list and block permission table. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since Sudia et al. suggest that the permission information may be included in the hashed value in order to ensure the validity of the data and that the data has not been improperly modified in par. 219, par. 237, and par. 244-245.

As per claims 12 and 28:

Ueda et al., Pebley et al., and Sudia et al. substantially teach an information recording device and method of claims 8 and 24. Furthermore, Sudia teaches an information playback device and method wherein, in said cryptosystem unit, the decryption processing is executed as single-DES decryption processing using different decryption keys for the sectors (par. 332).

VI. Claims 6, 13, 22, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda et al., United States Patent No. 6,289,102; Pebley et al., US Patent No. 6,154,840; and Sudia et al., United States Pub. No. 2005/0114666. as applied to claims 1, 8, 17, and 24 above, and further in view of Dilkie et al., United States Patent No. 6,341,164.

As per claims 6 and 22:

Ueda et al., Pebley et al., and Sudia et al. substantially teach an information recording device and method, as applied to claims 1 and 17 above. Not explicitly disclosed is the information recording device wherein, in said cryptosystem unit, the encryption processing for the first sector to the M-th sector is executed as triple-DES encryption processing using at least two different encryption keys for each of the sectors. However, Dilkie et al. teaches the use of a

triple-DES encryption processing. Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the device/method disclosed in Ueda et al. to use triple-DES for the encryption processing. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Dilkie et al. in col. 2, lines 48-54.

As per claims 13 and 29:

Ueda et al., Pebley et al., and Sudia et al. substantially teach an information playback device and method, as applied to claims 8 and 24 above. Not explicitly disclosed is the information playback device wherein, in said cryptosystem unit, the decryption processing for the first sector to the M-th sector is executed as triple-DES decryption processing using at least two different decryption keys for each of the sectors. However, Dilkie et al. teaches the use of a triple-DES decryption processing. Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the device/method disclosed in Ueda et al. to use triple-DES for the decryption processing. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Dilkie et al. in col. 2, lines 48-54.

**References Cited, Not Used*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. US Patent No. 5,892,900
2. US Pub. No. 2006/0021064
3. US Pub. No. 2006/0053077
4. US Patent No. 5,999,622
5. US Patent No. 6,598,161
6. US Patent No. 6,853,727
7. US Patent No. 6,014,443
8. US Patent No. 7,400,725
9. US Pub. No. 2005/0185547

The above references have been cited because they are relevant due to the manner in which the invention has been claimed.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nadia Khoshnoodi whose telephone number is (571) 272-3825. The examiner can normally be reached on M-F: 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nadia Khoshnoodi/
Examiner, Art Unit 2437
2/15/2009

NK

/Emmanuel L. Moise/
Supervisory Patent Examiner, Art Unit 2437